

IN THE SPECIFICATION:

Please amend the Specification of the above-identified application as follows.

Please amend the paragraph beginning on page 1, line 12 as follows.

--Many alternative solvents have been proposed to replace perchloroethylene. Liquid carbon dioxide is one example, but the high-pressure equipment needed for this inorganic solvent makes it unpractical and prohibitively expensive. A novel and more promising class of dry cleaning solvents are the so-called non-flammable, non-chlorine containing organic solvents. Examples may include hydrofluoroethers such as nonafluoromethoxybutane and nonafluoroethoxybutane or hydrofluorocarbons such as decafluoropentane. Hydrofluoroethers are relatively low in toxicity, are claimed to have zero ozone depletion potential, have relatively short atmospheric lifetimes, and can have very low global warming potentials relative to chloro fluorocarbons and many chloro fluorocarbon substitutes. Furthermore, HFEs are listed as non-volatile organic compounds by the EPA, and as such are not considered as smog precursors.--

Please amend the paragraph beginning on page 2, line 9 as follows.

--Considering the potential problems of industrial solvent cleaning systems if applied in the domestic environment, there is a need for a novel solvent reclamation method which gives a better rate of solvent reclamation whilst reducing the amount of waste, as compared with known processes. This problem is solved by the present invention which is aimed at providing a system for cleaning of solvent which is compatible with the conflicting requirements of process rate, required solvent quality, minimal consumer interaction, process safety and minimal environmental impact.--

Please amend the paragraph beginning on page 6, line 16 as follows.

--The two main design parameters for a cross flow membrane are the total solvent flux (TF) through the membrane (permeate) in liters of solvent per hour and the membrane pore size. For the present system the TF preferably is larger than 10 Lh^{-1} , more preferably larger than 25 Lh^{-1} and most preferred larger than 40 Lh^{-1} . A closely related parameter is the so-called trans membrane pressure (TMP) which is an important driver for the total flux through the membrane. The TMP should be larger than 0.5 bar and preferably be larger than 2 bar but lower than 10 bar. The total membrane surface area should be kept as low as possible for reasons of cost and space constraints and hence the specific solvent flux of the membrane should preferably be greater than $20 \text{ Lh}^{-1}\text{m}^{-2}\text{bar}^{-1}$ (liters of solvent per hour per square meter of membrane surface area per bar TMP), more preferably greater than $100 \text{ Lh}^{-1}\text{m}^{-2}\text{bar}^{-1}$ and still more preferably greater than $200 \text{ Lh}^{-1}\text{m}^{-2}\text{bar}^{-1}$ and most preferably greater than $1,000 \text{ Lh}^{-1}\text{m}^{-2}\text{bar}^{-1}$.--

Please amend the paragraph beginning on page 6, line 29 as follows.

--The pore size of the cross-flow membrane largely determines the separation ability of the membrane. However, for a given type of membrane a smaller pore size generally also decreases the specific solvent flux. In the present system the pore size should be chosen such that particulates and small droplets can be separated from the solvent while maximizing the total solvent flow through the membrane. Hence the pore size ~~for~~ preferably should be smaller than 2 microns, more preferably smaller than 1 microns and most preferred be smaller than 0.2 microns but larger than 0.02 microns.--

Please amend the paragraph beginning on page 9, line 4 as follows.

--The activated carbon may be fine powders having average particle sizes in the range of about 0.1-300 microns, preferably 0.1-200 microns. The average particle size can be measured by ISO 9001 EN-NS 45001 sieve ~~analysis~~analysis (using U.S. Standard Testing Sieves) or

ASTM D4438-85. The activated carbon may be modified by steam treatment, acid treatment ~~and/or~~ and/or base treatment. In a preferred embodiment, the activated carbon is acid-treated activated carbon.--

Please amend the paragraph on page 10, line 19 as follows.

--Suitable charged agents include those selected from the group consisting of : anionic materials, cationic materials, zwitterionic materials and mixtures thereof.--

Please amend the paragraph beginning on page 12, line 7 as follows.

--Suitable spacer materials include any fibrous or particulate material that is, at most, only slightly soluble in water and/or cleaning solvent. The spacer can be dispersed throughout a matrix of absorbent material in order to improve its permeability above that of a matrix made up of an absorbent material alone; or, the spacer can be used to maintain permeability even after the absorbent material swells ~~and/or~~ and/or gels upon exposure to water. Therefore, the spacer helps reduce the pressure drop across an absorbent material matrix when a water-bearing fluid is passed through the matrix. In addition, if the absorbent material is prone to congealing after exposure to water and subsequent collapse, the spacer can aid in the reduction or prevention of gel congealing and collapse.--

Please amend the paragraph beginning on page 17, line 5 as follows.

--Usually, the rinse composition – including any soil and other unwanted residues – will be separated from the laundry articles after each rinse step. The separation may be carried out in several ways. Spinning, twisting, wringing, squeezing the laundry articles are well known mechanical ways. Thus according to one preferred embodiment, a dry cleaning process is provided whereby each rinse step is followed by separating the rinse composition from the

textile article wherein the liquid to cloth ratio (w/w) after separation is less than 0.6, preferably less than 0.4, more preferably less than 0.2.--

Please amend the paragraph beginning on page 17, line 13 as follows.

--Following the separation step, the laundry articles may be dried in any conventional manner. For example, the laundry articles may be heated while being agitated in for example a drum or subjected to a low pressure to evaporate the dry cleaning solvent. It is preferred to dry the articles in a way such that ~~hethe~~ evaporated solvent can be captured.--

Please amend the heading beginning on page 31, line 26 as follows.

--Brief Description of the DrawingsDrawing--

Please delete the paragraph beginning on page 31, line 27.

Please amend the paragraph beginning on page 31, line 28 as follows.

--Figure 1 shows a A schematic diagram of an in-home dry cleaning process and apparatus which incorporates solvent cleaning according to the present invention.--

Please amend the paragraph beginning on page 32, line 17 as follows.

--Figure 1 of the The accompanying drawingsdrawing shows a block diagram of the preferred embodiment of the solvent reclamation system according to the invention. Used solvent returned from the wash cycle is routed to used solvent vessel 1. First the used solvent passes over a so-called button trap 3, that will take out any large particulates, lint or other matter that is too large to be processed in the reclamation system. A sanitization module 4 is located between the button trap 3 and the used solvent vessel 1. The used solvent vessel 1 may include a solvent level sensor 5. The tank volume may be greater than the sum total volume of working

solvent plus any additives used such that the entire solvent volume of the machine can be adequately stored in the used solvent vessel.--

Please amend the paragraph beginning on page 33, line 24 as follows.

--The permeate flow exits the membrane 19 and enters a permeate pump 21. In the line between the cross-flow membrane 19 and ~~at~~the permeate pump 21 a sensor 23 ~~is~~ present that determines the quality of the solvent. If the quality of the solvent is acceptable, i.e. if the solvent contains a low amount of impurities, a valve 25 shunts the permeate flow from the cross-flow membrane 19 directly to clean solvent vessel 11. When the solvent quality is judged to be low (sensor 23), valve 25 directs the permeate into an adsorber column 27, filled with one or more materials with a high surface area such as activated carbon, zeolites, silicates or other high surface area materials. The adsorber column is selected for its ability to remove organic residues, such as odors, fatty acids, dyes, petroleum based products, surfactants or the like that are miscible enough with the bulk solvent to pass through the cross flow membrane 19.--

Please amend the paragraph beginning on page 34, line 10 as follows.

~~--Returning to Figure 1, the~~The concentrated solvent exits the cross flow membrane 19 and is routed towards a multi-way valve 31. In the default position, the multi-way valve 31 shunts the concentrate to the used solvent vessel 1 and is mixed with the remaining used solvent in the vessel and is then routed back through the cross-flow filtration process described above. Once the concentrate multi-way valve 31 is activated, the concentrate is routed to a low temperature evaporation unit 33.--

Please amend the paragraph beginning on page 36, line 7 as follows.

--From above it will be clear that by using the described novel reclamation method it is possible to optimize the reclamation process with respect to time required to regenerate the used

solvent, consumption of adsorber material, generation of solid waste and user friendliness.

From the dry cleaning process, basically two types of used solvent streams will have to be treated in the reclamation system. First is a used solvent stream as a ~~results~~result of a wash cycle in the dry cleaning process (wash stream), the other used solvent stream is the result of a rinse step in the dry cleaning process (rinse stream). It will be clear that a wash stream will generally contain a higher concentration of detergent components, dissolved soils, particulate matter and possibly water whereas a rinse stream will mainly contain particulate matter and a low amount of dissolved compounds. Hence, a preferred reclamation method, but not necessarily the only method, for a wash stream will therefore be a cooling step in chiller 9, followed by a cross-flow filtration step in cross flow membrane 19 until the desired volume reduction has been realized. Then the concentrated solvent stream will be shunt to the low temperature evaporation unit by valve 31. A preferred reclamation method, but not necessarily the only method, for a rinse stream will be a direct route to the clean solvent storage 11 through valve 13. Alternatively, based on sensor 15, valve 13 may shunt the rinse stream to the cross-flow membrane ~~33~~19 without cooling in chiller 9 to remove particulate matter. After the desired volume reduction has been realized, the concentrated solvent stream will be collected in the used solvent vessel 1.--